

REMARKS

The Office action dated April 30, 2004 is acknowledged. Claims 1-17 are pending in the instant application. According to the Office action, each of these claims has been rejected. Claim 12 has been amended as set forth above. Reconsideration is respectfully requested in light of the amendments being made herein and of the following remarks.

Objection to the Abstract

The Examiner objected to the Abstract for exceeding the range of 50 to 150 words. The Abstract has been amended to reduce the number of words to be within the prescribed range. Withdrawal of this objection is respectfully requested.

Objection to the Drawings

The drawing is objected to as failing to comply with 37 CFR 1.84(p)(5) because it does not include the reference sign "24" which is mentioned in the specification at page 8, line 7. It is respectfully submitted that the replacement drawing submitted herewith includes this reference number. However, it is respectfully pointed out that the drawing as filed also included reference sign 24. Therefore, the drawing was in compliance with 37 CFR 1.84(p)(5) upon filing and so no amendments to the drawings have been made. The replacement drawings are being submitted merely to place formal drawings into the application file. No new matter has been added. It is respectfully requested that this objection also be withdrawn.

Rejection of Claims 1, 2, 3, 4-8, 11 and 13-17

Claims 1, 2, 3, 4-8, 11 and 13-17 have been provisionally rejected under the

judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-10 and 12-15 of co-pending application number 10/671,902. The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other for the various reasons set forth in pages 3-7 of the Office action.

The applicant submits that a properly executed terminal disclaimer to obviate a provisional double patenting rejection over a pending second application is submitted herewith, executed by the applicant's attorney of record, along with the terminal disclaimer fee set forth in 37 CFR 1.20(d). It is therefore respectfully requested that this rejection be withdrawn.

Rejection of Claims 9 and 10

Claims 9 and 10 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of co-pending application number 10/671,902 in view of U.S. Patent No. 5,492,777 (Isenberg et al.). The Examiner states that although the conflicting claims are not identical, they are not patentably distinct from each other for the various reasons set forth in pages 8-9 of the Office action.

The applicant submits that a properly executed terminal disclaimer to obviate a provisional double patenting rejection over a pending second application is submitted herewith, executed by the applicant's attorney of record, along with the terminal disclaimer fee set forth in 37 CFR 1.20(d). It is therefore respectfully submitted that this rejection be withdrawn.

Rejection of Claim 12 under 35 U.S.C. 102(b)

Claim 12 has been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,492,777 (Isenberg et al.). Specifically, the Examiner states that Isenberg et al. discloses a process for an electrochemical system adapted to operate between a fuel cell mode, an electrolysis mode and a mode alternating between the electrolysis mode and the fuel cell mode, wherein the alternating mode is also an energy storage system mode. In summary, as set forth at pages 9-10 of the Office action, the Examiner states that Isenberg et al. discloses each and every limitation of the present invention as set forth in claim 12.

The applicant respectfully submits that the present invention as set forth in claim 12 (as amended) can be differentiated from the process set forth in Isenberg et al. Specifically, the present invention as set forth in claim 12 includes a process which incorporates gaseous diffusion for the transport of reactants between various components of the cell. Support for this can be found throughout the specification, such as at page 5, lines 7-8. In contrast, the process of Isenberg et al. employs an energy storage system which uses iron/iron oxide reactions as an integral part of the system, whereas the process of the system set forth in claim 12 of the present invention does not rely on such a reaction. Moreover, the process of Isenberg et al. uses a tubular solid oxide cell (col. 7, lines 50-51), whereas that of the present invention uses a planar diffusion cell (or system). The applicant submits that it is well known to one skilled in the art that such tubular systems always rely on pressure differences/forced flow in order to flow reactants inside each cell, whereas the planar system of the present invention employs gaseous diffusion

for this purpose, as recited in claim 12. The applicant submits that it is also known to one skilled in the art that it would not be possible to use gaseous diffusion for this purpose in a tubular system, such as that described in Isenberg et al.

The applicant also submits that the process of the system of Isenberg et al. does not use any seals. For example, Isenberg et al. states “the absence of rigid seal between electrochemical cells, and anode, as well as cathode compartments permit thermal expansion and contraction of individual tubular cells within large cell bundles and reduces stress within the cell apparatus.” (col. 7, lines 14-18). The process of the system of the present invention, as recited in claim 12, includes preventing the fuel-gas mixture from accessing the oxygen electrode by a seal provided around the oxygen electrode and preventing the gas mixture containing oxygen from accessing the fuel electrode by a seal provided around the fuel electrode.

Lastly, the applicant submits that the process of the system of the present invention includes separating each cell from an adjacent cell by way of an impervious, planar separator, as recited in amended claim 12. Nowhere in Isenberg et al. is such a feature taught or described.

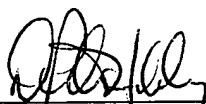
Therefore, because Isenberg et al. does not teach each and every limitation set forth in claim 12 of the present application, it is respectfully submitted that the present invention is not anticipated by Isenberg et al. It is therefore respectfully requested that this rejection be withdrawn.

Conclusion

For the foregoing reasons, it is believed that the present application as amended is in condition for allowance, and such action is earnestly solicited. The Examiner is invited to call the undersigned if there are any remaining issues to be discussed which could expedite the prosecution of the present application.

Respectfully submitted,

Date: June 30, 2004

By: 
D. Peter Hochberg
Reg. No. 24,603

D. Peter Hochberg Co., L.P.A.
1940 E. 6th St. - 6th Floor
Cleveland, OH 44114-2294
DPH/sm